

What is claimed is:

5           1. A common subscriber managing apparatus for use in an Internet Protocol network in which a circuit network for voice and a packet network for data are integrated, the apparatus comprising:

10           first portable user terminating means and satisfying media voice or data standard supported in the network;

15           wireless interfacing means for controlling wireless resources of said user terminating means and wireless traffic, controlling handoff, realigning data from and to the packet network based on a request of said user terminating means to have interfacing condition, providing the realigned data to said user terminating means, and transferring the media to a second user terminating means;

20           call controlling means for controlling a call between the wireless interfacing means and common subscriber managing means;

and

25           common subscriber managing means for providing Security Association setup function for voice processing and commonly managing mobility management, Quality of Service, authentication and authorization management, accounting management and service management functions for said first user terminating means by

using a common subscriber database.

2. The apparatus as recited in claim 1, further comprising  
service managing means for performing service management  
5 functions.

3. The apparatus as recited in claim 2, wherein said common  
subscriber managing means uses a first protocol for mobility  
management and service management and a second protocol for  
10 Quality of Service management, for authentication and accounting  
management as an application layer protocol, and for  
constructing protocol stack for implementing common subscriber  
management function.

4. The apparatus as recited in claim 3, wherein said common  
subscriber managing means uses User Datagram  
15 Protocol/Transmission Control Protocol as a transmission layer  
protocol.

5. The apparatus as recited in claim 3, wherein said common  
20 subscriber managing means uses Internet Protocol as a network  
layer protocol.

6. A method for managing commonly subscribers for use in an  
25 Internet Protocol network in which a circuit network for voice

and a packet network for data are integrated, the method comprising the steps of:

(a) modeling to provide, by a server, mobility management, Quality of Service, authentication and authorization management, accounting management, and service management for a roaming terminal by using a common subscriber database for all Internet Protocol service; and

(b) setting Security Association function for voice processing by setting up a call between an Internet Protocol visiting network and a home network by the server and commonly managing mobility management, Quality of Service, authentication and authorization management, accounting management, and service management.

7. The method as recited in claim 6, wherein, during step (a), the method uses a first protocol for mobility management and the service management and a second protocol for Quality of Service management, for authentication and accounting management as application layer protocol, and for constructing protocol stack for implementing common subscriber management function.

8. The method as recited in claim 7, wherein, during step (a), the method uses User Datagram Protocol/Transmission Control Protocol as a transmission layer protocol.

9. The method as recited in claim 7, wherein, during step (a), Internet Protocol is used as a network layer protocol.

10. The method as recited in claim 6, wherein step (b) includes:

(i) when an originating Radio Access Network (RAN\_0) transmits a call setup request message to an originating Call Control Function (CCF\_0), transferring an access request message from the CCF\_0 to a visiting common subscriber server (CSS\_V);

(ii) searching a Home CSS (CSS\_H) by the CSS\_V for proxy processing of a corresponding message;

(iii) obtaining by the CSS\_V a Temporary Local Directory Number and location information of a terminating subscriber from a terminating Call Control Function (CCF\_T) to transfer said Temporary Local Directory Number TLDN and the said location information to said CSS\_H;

(iv) transferring a Security Association setup message from said CSS\_V and said CSS\_H to said RAN\_0 and said location information, respectively, and setting said Security Association between said RAN\_0 and said location information;

(v) when said CSS\_V receives a access response message, transferring a path reset request message for call setup for the said location information from said CCF\_0 to said RAN\_0; and

(vi) setting up a call between the Internet Protocol visiting network and the home network by transferring the call

setup request message from said RAN\_O to said location information RAN\_T and transferring a call setup completion message from said location information to said RAN\_O.

5           11. The method as recited in claim 6, wherein step (b) includes:

          (i) when an originating Radio Access Network (RAN\_O) transmits a call setup request message to an originating Call Control Function (CCF\_0), transferring an access request message from said CCF\_0 to a visiting common subscriber server (CSS\_V);

          (ii) searching a Home CSS (CSS\_H) by the CSS\_V for proxy processing of a corresponding message;

          (iii) obtaining through said CSS\_H a Temporary Local Directory Number (TLDN) and location information (RAN\_T) of a terminating subscriber from a terminating Call Control Function (CCF\_T) to said CCF\_T;

          (iv) requesting a service by said CSS\_H and obtaining service related profile from a server corresponding to said service by said CSS\_H;

20           (v) providing said TLDN, said RAN\_T IP address, and service-related information for the terminating subscriber, from said CSS\_H to said CSS\_V;

          (vi) transferring a Security Association setup message from said CSS\_V and said CSS\_H to said RAN\_O and said RAN\_T, respectively, and setting said Security Association between said

RAN\_O and said RAN\_T;

(vii) when said CSS\_V receives an access response message, transferring a path reset request message for call setup for said RAN\_T from said CCF\_O to said RAN\_O; and

5 (viii) setting up a call between the Internet Protocol visiting network and the home network by transferring said call setup request message from said RAN\_O to said RAN\_T and transferring a call setup completion message from said RAN\_T to said RAN\_O.

10 12. The method as recited in claim 6, wherein step (b) includes:

(i) when an originating Radio Access Network (RAN\_O) transmits a call setup request message to an originating Call Control Function (CCF\_O), transferring an access request message from said CCF\_O a visiting common subscriber server (CSS\_V);

15 (ii) searching a Home common subscriber service (CSS\_H) by said CSS\_V for proxy processing of a corresponding message;

(iii) using said CSS\_H for requesting a service and mobility to a service server;

20 (iv) providing a Temporary Local Directory Number (TLDN) and location information (RAN\_T IP address) of a terminating subscriber from said CCS\_H to said CCS\_V;

(v) transferring a Security Association setup message from  
25 said CSS\_V and said CSS\_H to said RAN\_O and said RAN\_T,

respectively, and setting said Security Association between said RAN\_O and said RAN\_T;

(vi) when said CSS\_V receives a access response message, transferring a path reset request message for call setup for said RAN\_T from said CCF\_O to said RAN\_O; and

(i) setting up a call between the Internet Protocol visiting network and the home network by transferring the call setup request message from said RAN\_O to said RAN\_T and transferring a call setup completion message from said RAN\_T to said RAN\_O.

13. In an Internet Protocol network having a processor, a computer readable recording medium for recording a program for implementing the functions of:

(a) modeling to provide, by a server, mobility management, Quality of Service, authentication and authorization management, accounting management and service management functions for a roaming terminal by using a common subscriber database for Internet Protocol service; and

(b) setting a Security Association function for voice processing by setting up a call between an Internet Protocol visiting network and a home network by the server and commonly managing the mobility management, Quality of Service, authentication and authorization management, accounting management, and service management functions.